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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,502	06/15/2006	Gerardus Rudolph Langereis	NL031470	7385

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EXAMINER

FRANK, EMILY J

ART UNIT	PAPER NUMBER
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2627

MAIL DATE	DELIVERY MODE
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10/07/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/596,502	LANGEREIS ET AL.	
	Examiner	Art Unit	
	EMILY FRANK	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claim 5 is objected to because of the following informalities: claim 5 describes "the write strategy parameters" which have not been previously introduced in either claim 1 or claim 5. Appropriate correction is required.
3. Claim 9 is objected to because of the following informalities: claim 9 currently reads "method according to any one of claims 1" however claim 9 should be changed to "method according to claim 1". Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Dittmar et al (United States Patent 5,781,699) hereinafter referred to as Dittmar.
6. Regarding claim 1, Dittmar discloses a method for determining at least one write strategy (column 4 lines 24-26; a method for rapidly tuning channel parameter values for a recording channel in a data storage system), using a write strategy model comprising first and second parameters, for recording data on a medium comprising the steps: providing at least one set of randomised first parameters (column 7 lines 8 and

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43-45 and figure 3A; in step 100, an initial population of individual is generated in one embodiment of the present invention, the individuals in the initial population are randomly generated), writing a data pattern by using said at least one set of first randomised parameters (column 8 lines 45-46; the parameters in the channel 22 are set to values corresponding to the genes in a particular individual), reading the recorded data pattern (column 8 lines 47-48; a performance criterion (such as bit error rate) is measured for the data storage system), and calculating a set of second parameters, based on said read pattern and based on the at least one set of first randomised parameters, for enabling recording data on said medium, in an optimised manner (column 8 lines 39-44 and figure 3A; in step 106, fitness values are calculated for each of the individuals in the current population a fitness value is a value indicative of the performance of the data storage system as measured by a specific performance criterion when the parameter values associated with a specific individual are applied to the channel 22).

7. Regarding claim 2, Dittmar discloses a method for determining at least one write strategy according to claim 1 as set forth above, Dittmar further discloses further comprising the steps: providing the set of calculated second parameters (column 9 lines 27-29; after fitness values are calculated for each of the individuals in the initial population the fitness values are check in step 108), and calculating at least one set of first parameters, based on the set of second parameters and the data to be recorded (column 9 lines 53-55 and column 10 lines 15-17 and figure 3A; in step 112 individuals from the initial population are chosen for mating (i.e. reproduction) based upon the

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calculated fitness values, after individuals are selected for mating, genetic operations are performed on the selected individuals to create offspring in step 114).

8. Regarding claim 3, Dittmar discloses a method according to claim 2 as set forth above, Dittmar further discloses further comprising the step: recording data in at least one storage location, based on the sets of calculated first and second parameters and the data to be recorded (column 5 lines 30-35; the channel 22 may provide means for storing information from the host computer 32 to the disk 12 that is, the channel 22 may include encoding means for encoding the data signal from the host 32 and means for creating a write signal to be delivered to the transducer 12 from the encoded data).

9. Regarding claim 4, Dittmar discloses a method according to claim 1 as set forth above, Dittmar further discloses in which the parameters in the set of first parameters, are write strategy parameters (column 7 lines 15-18; each chromosome may include a value of each of the following channel parameters: write current and write pre-compensation in the write circuit 70).

10. Regarding claim 5, Dittmar discloses a method according to claim 1 as set forth above, Dittmar further discloses in which the write strategy parameters, at least relate to write power levels (column 7 lines 15-18; each chromosome may include a value of each of the following channel parameters: write current and write pre-compensation in the write circuit 70).

11. Regarding claim 6, Dittmar discloses a method according to claim 1 as set forth above, Dittmar further discloses in which the parameters in the set of second parameters, are strategy model parameters (column 8 lines 40-42; a fitness value is a

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value indicative of the performance of the data storage system as measured by a specific performance criterion).

12. Regarding claim 7, Dittmar discloses a method according to claim 1 as set forth above, Dittmar further discloses in which the parameters in the set of second parameters, are related to the read out level, of the at least one storage location and the write power levels used (column 8 lines 40-42; a fitness value is a value indicative of the performance of the data storage system as measured by a specific performance criterion).

13. Regarding claim 8, Dittmar discloses a method according to claim 7 as set forth above, Dittmar further discloses in which the read out level, of the at least one storage location is linearly dependent on the write power levels used (column 6 lines 30-33; the optimal values for these parameters generally vary from track to track, zone to zone and/or head to head).

14. Regarding claim 9, Dittmar discloses a method according to claim 1 as set forth above, Dittmar further discloses in which the determining of the at least one write strategy is an optimization (column 4 lines 24-26; a method for rapidly tuning channel parameter values).

15. Regarding claim 10, Dittmar discloses a method according to claim 1 as set forth above, Dittmar further discloses wherein the model is based on an influence on a certain storage location from processing neighbouring storage locations (column 6 lines 30-33; the optimal values for these parameters generally vary from track to track, zone to zone and/or head to head).

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16. Regarding claim 11, Dittmar discloses a method according to claim 10 as set forth above, Dittmar further discloses wherein the write power level for storing data at a certain location is dependent on the write power levels used for neighbouring storage locations (column 6 lines 30-33; the optimal values for these parameters generally vary from track to track, zone to zone and/or head to head).

17. Regarding claim 12, Dittmar discloses a method according to claim 10 as set forth above, Dittmar further discloses wherein the write power level for storing data at a certain location is dependent on the read out level at neighbouring storage locations (column 6 lines 30-33; the optimal values for these parameters generally vary from track to track, zone to zone and/or head to head).

18. Claim 13 is within the scope of claim 1 and thus is rejected based on similar reasoning.

19. Claim 14 is a recording medium which is recorded by the method of claim 1 and thus is rejected based on similar reasoning.

20. Claim 15 is a write strategy determining device utilizing the method of claim 1 and thus is rejecting based on similar reasoning.

21. Claim 16 is a recording device for recording data based on the method of claim 1 and thus is rejected based on similar reasoning.

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Miyagawa et al (United States Patent Publication 2001/0038583) hereinafter referred to as Miyagawa discloses high density analog recording. Miyagawa

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discloses a method of determining a write strategy for recoding data on a medium (paragraph 0009) where a random set of values are assigned to the various write parameters (paragraph 0053) which are then recorded and read (paragraph 0053) and compared with the ideal waveform. Next, mutations are introduced to each of the parameters of the write sequence and the recorded result is again compared with the ideal waveform (paragraph 0054). Miyagawa uses the random variations to determine which parameters produce the ideal waveform.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMILY FRANK whose telephone number is (571)270-7255. The examiner can normally be reached on Monday to Friday 8:00 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (571)272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter Vincent Agustin/
Primary Examiner, Art Unit 2627

EJF